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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,595	12/15/2003	Hiroshi Watanabe	062709-0122	1453
22428	7590	08/10/2006	EXAMINER	
FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			JULES, FRANTZ F	
			ART UNIT	PAPER NUMBER
			OPT	

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/734,595	WATANABE, HIROSHI	
	Examiner	Art Unit	
	Frantz F. Jules	3617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-8 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-8, 13-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5-6, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrotte et al (US 6,112,585) in view of Katou (US 6, 705,155 B2) and Stewart et al (US 7,010,968).

Schrotte et al disclose a tire pressure detecting apparatus for a vehicle, comprising at least two terminals, each of the terminals comprising a tire pressure sensor (not shown) configured to detect a tire pressure; and a transmitter (not shown) configured to transmit tire pressure data based on the detected tire pressure since the Alpha Beta Electronics reference discloses a plurality of receiving antenna adjacent to at least each wheel, it is factual that each receiving antenna is coupled to a pressure sensor and an transmitter positioned at the tire for normal operation, see col 4, lines 48-50, at least two receivers (A, B, C, N), and a controller constituted by the multiplex circuit receiver controller as disclosed in col 3, lines 25-35, wherein each of the terminals is attached to a corresponding tire that is positioned in a respective area of the vehicle, wherein each of the receivers is attached to a part of the vehicle corresponding to an associated tire,

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wherein each of the receivers is configured to receive the tire pressure data transmitted by the transmitters and to detect and transmit the received tire pressure data since the received data is transmitted to the receiver means,

wherein the controller or the receiver means identified in col 5, lines 25-35 is configured to identify the receiver that has the highest reception level, wherein the controller is configured to obtain the tire pressure data from the identified receiver, and wherein the controller is configured to relate the obtained tire pressure data with the tire associated with the identified receiver, see the abstract section.

A display that is configured to display the obtained tire pressure data and the location of the tire associated with the identified receiver is provided in the vehicle as disclosed in col 1, lines 4-25.

Schrott et al teach all of the features as disclosed above but does not disclose demodulation of tire pressure data signals at individual receivers in addition to detection and transmission of a reception level of the data in the receivers. The general concept of receiving and demodulating tire pressure data/signals in each receiver of a tire pressure detecting apparatus falls within the realm of common knowledge as obvious mechanical expedient and is well known in the art as illustrated by Stewart et al which disclose the teaching of receiving and demodulating tire pressure data/signals in a receiver, see col 5, lines 45-50. The general concept of detecting and transmitting a reception level of data in a tire pressure detecting apparatus is well known in the art as illustrated by Katou which discloses the teaching of detection and transmission of a reception level of signals and data by a controller, see col 2, lines 9-12. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schrott et al to

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include the use of demodulation of tire pressure data signals at individual receivers in his advantageous tire pressure detecting apparatus as taught by Stewart et al in order to extract the tire data contained within the RF signals as discloses in col 5, lines 47-48. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schrotte et al to include the use of detection and transmission of a reception level of the data in the receivers of his advantageous tire pressure apparatus as taught by Katou in order to permit identification of the source of the signal thereby improving on the performance of the system.

3. Claims 5, 7-8, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman et al (US 6,018,993 A) in view of Katou (US 6,705,155 B2) and Stewart et al (US 7,010,968).

Norman et al disclose a tire pressure detecting apparatus for a vehicle, comprising a plurality of terminals (A-D), wherein each of the terminals comprising a transmitter and a receiver (antenna) is positioned proximate a corresponding tire of the vehicle, wherein each of the terminals is configured to detect a tire pressure of the corresponding tire, and wherein each of the terminals is configured to transmit a tire pressure signal corresponding to the detected tire pressure; and a controller (E), wherein the controller is configured to identify the pressure in, and the location of, each of the tires. Each of the receivers is coupled to a transmitter, wherein each of the receivers is configured to receive the tire pressure data transmitted by the transmitters and to detect and transmit the received tire pressure data as discloses in col 5, lines 10-13, wherein the controller is configured to identify the receiver that has the highest reception level, wherein the controller is configured to obtain the tire pressure data from the identified receiver, and wherein the controller

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is configured to relate the obtained tire pressure data with the tire associated with the identified receiver, see col 4, lines 58-67, col 5, lines 1-13.

A radio signal strength indicator RSSI circuit comprising attenuator, rectifier and smoothing circuit configured to detect signal is provided in accordance with claims 7-8.

Norman et al teach all of the features as disclosed above but does not disclose detection and transmission of a reception level of the data in the receivers in addition to demodulation of tire pressure data signals at individual receivers. The general concept of receiving and demodulating tire pressure data/signals in each receiver of a tire pressure detecting apparatus falls within the realm of common knowledge as obvious mechanical expedient and is well known in the art as illustrated by Stewart et al which disclose the teaching of receiving and demodulating tire pressure data/signals in a receiver, see col 5, lines 45-50. Also, the general concept of detecting and transmitting a reception level of data in a tire pressure detecting apparatus is well known in the art as illustrated by Katou which discloses the teaching of detection and transmission of a reception level of signals and data by a controller, see col 2, lines 9-12. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Norman et al to include the use of detection and transmission of a reception level of the data in the receivers of his advantageous tire pressure apparatus as taught by Katou in order to permit identification of the source of the signal thereby improving on the performance of the system. Also, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Norman et al to include the use of demodulation of tire pressure data signals at individual receivers in his advantageous tire pressure detecting apparatus as taught by Stewart et al in order to extract the tire data contained within the RF signals as discloses in col 5, lines 47-48.

Claims 13-15

Regarding using configuring each of the receivers to receive tire pressure signals transmitted by all of the transmitters as recited in claims 13-15, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Norman et al to include the use of configuring each of the receivers to receive tire pressure signals transmitted by all of the transmitters in his advantageous system, as controller selection is a common and everyday occurrence throughout the tire pressure detection apparatus design art and the specific use of configuring each of the receivers to receive tire pressure signals transmitted by all of the transmitters would have been an obvious matter of design preference depending upon such factors as the loading on the transmitters, the pressure rating of the transmitter; the ordinarily skilled artisan choosing the best stress profile corresponding to a particular loading imposed on the side walls which would most optimize the cost and performance of the device for a particular application at hand, based upon the above noted common design criteria.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Norman et al and Katou and Stewart et al'968, as applied to claim 5 and further in view of Stewart et al (2003-0197603 A1).

Claim 6

Norman et al teach all the limitations of claim 6 except for a tire pressure detecting apparatus comprising a display device. The general concept of providing a display configured to display the tire pressure data of a tire monitoring system fall within the real of common knowledge and

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is well known in the art as illustrated by Stewart et al which a display device for showing a tire pressure level. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Norman et al to include the use of a display device in his advantageous tire pressure detecting apparatus as taught by Stewart et al in order to allow alert a vehicle operator while improving on the safety in the vehicle.

Response to Arguments

5. Applicant's arguments filed 05/09/2006 have been fully considered but they are moot in view of the new grounds of rejection.

Applicant's argument that Katou teaches demodulation solely in a central receiver and fails to teach or suggests individual receivers that are configured to receive and demodulate tire pressure data/signals is weak to overcome the rejection of the claims as demodulation of tire pressure data/signals is well known in the art as evidence by Katou or Stewart et al'968 which discloses the teaching of receiving and demodulating tire pressure data/signals in receivers of a tire pressure detecting apparatus, see col 5, lines 45-50.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 272-6681. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 272-6684. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frantz F. Jules
Primary Examiner
Art Unit 3617

FFJ

August 2, 2006

FRANTZ F. JULES
PRIMARY EXAMINER
